IN THE CLAIMS:

Please CANCEL claims 1-26 without prejudice to or disclaimer of the recited subject matter.

Please ADD new claims 27-50, as follows. For the Examiner's convenience, all claims currently pending in this application have been reproduced below.

1-26. (Canceled)

27. (New) An apparatus adapted for determining a target position of a stage on which an object is placed, said apparatus comprising:

an image sensing system arranged to obtain image data by sensing an image of a mark formed on the object;

a measurement system arranged to measure a position of the stage plural times during the sensing by said image sensing system; and

an arithmetic section arranged to calculate the target position of the stage based on the image data obtained by said image sensing system and the positions of the stage measured by said measurement system.

28. (New) The apparatus according to claim 27, wherein said image sensing system stores an image signal of the mark during an observation period and obtains the image data used

for determining an average position of the mark during the observation period based on the stored image signal.

29. (New) The apparatus according to claim 27, wherein said image sensing system and said measurement system obtain the image data of the mark and the positions of the stage, respectively, during substantially the same observation period.

30. (New) The apparatus according to claim 27, wherein after the stage moves to a position where said image sensing system can sense the image of the mark and before the stage stops, said image sensing system and said measurement system start sensing the image of the mark and measuring the positions of the stage, respectively.

31. (New) The apparatus according to claim 27, wherein said image sensing system comprises an off-axis scope.

32. (New) The apparatus according to claim 27, wherein said measurement system comprises an interferometer.

33. (New) The apparatus according to claim 27, wherein

the object has a plurality of areas, and the mark is formed in correspondence with each of the plurality of areas, and

the target position of the stage is calculated with respect to each of the plurality of areas.

34. (New) The apparatus according to claim 33, wherein said arithmetic section calculates a positional deviation of the mark with respect to each of the plurality of areas based on the image data obtained by said image sensing system and the positions of the stage measured by said measurement system, and calculates the target position of the stage with respect to each of the plurality of areas based on the positional deviation.

35. (New) The apparatus according to claim 30, wherein said apparatus is arranged such that the stage is moved at a substantially constant speed in the position where said image sensing system can sense the image of the mark.

36. (New) An exposure apparatus comprising:

a stage on which a substrate is placed;

a lens section arranged to project a pattern onto the substrate;

a first measurement system arranged to measure a position of a mark formed on the substrate;

a second measurement system arranged to measure a position of the stage plural times during the measurement by said measurement system; and

a calculation section arranged to calculate a target position of the stage based on a measurement result by said first measurement system and measurement results by said second measurement system; and

a positioning system arranged to drive the stage based on the target position calculated by said calculation section.

37. (New) The apparatus according to claim 36, wherein said first measurement system includes an image sensing system arranged to sense an image of the mark, said image sensing system storing an image signal of the mark during an observation period and obtaining an average position of the mark during the observation period based on the stored image signal.

38. (New) The apparatus according to claim 36, wherein said first measurement system and said second measurement system measure the position of the mark and the positions of the stage, respectively, during substantially the same observation period.

39. (New) The apparatus according to claim 36, wherein after said stage moves to a position where said first measurement system can measure the position of the mark and before said stage stops, said first measurement system and said second measurement system start measuring the position of the mark and the positions of the stage, respectively.

40. (New) The apparatus according to claim 36, wherein said first measurement system comprises an off-axis scope.

41. (New) The apparatus according to claim 36, wherein said second measurement system comprises an interferometer.

42. (New) The apparatus according to claim 36, wherein

the substrate has a plurality of areas to be exposed, and the mark is formed in correspondence with each of the plurality of areas, and

the target position of the stage is calculated with respect to each of the plurality of areas.

43. (New) The apparatus according to claim 42, wherein said calculation system calculates a positional deviation of the mark with respect to each of the plurality of areas based on the position of the mark measured by said first measurement system and the positions of the stage measured by said second measurement system, and calculates the target position of the stage with respect to each of the plurality of areas based on the positional deviation.

44. (New) The apparatus according to claim 39, wherein said apparatus is arranged such that said stage is moved at a substantially constant speed in the position where said first measurement system can measure the position of the mark.

45. (New) The apparatus according to claim 36, further comprising a determination system arranged to determined a mode to be applied when said calculation section calculates the target position of the stage.

46. (New) The apparatus according to claim 45, wherein said determination system determines the mode based on the position of the mark and the positions of the stage, which are measured by said first measurement system and said second measurement system, respectively, while placing, on said stage, the substrate having the mark which is formed by exposing a pattern by said exposure apparatus.

47. (New) A method adapted for determining a target position of a stage on which an object is placed, said method comprising the steps of:

first measuring a position of a mark formed on the object;

second measuring a position of the stage plural times during the measurement in said first measuring step; and

calculating a target position of the stage based on a measurement result in said first measuring step and measurement results in said second measuring step.

48. (New) A method adapted for an exposure apparatus having a stage on which a substrate is placed, and a lens section adapted to project a pattern onto the substrate, said method comprising the steps of:

first measuring a position of a mark formed on the object;

second measuring a position of the stage plural times during the measurement in said first measuring step; and

calculating a target position of the stage based on a measurement result in said first measuring step and measurement results in said second measuring step; and

driving the stage based on the target position calculated in said calculating step.

49. (New) A method of manufacturing a device, using an exposure apparatus having a stage on which a substrate is placed, and a lens section adapted to project a pattern onto the substrate, said method comprising the steps of:

placing the substrate applied with a resist on the stage;

first measuring a position of a mark formed on the substrate;

second measuring a position of the stage plural times during the measurement in said first measuring step; and

calculating a target position of the stage based on a measurement result in said first measuring step and measurement results in said second measuring step;

aligning the substrate using the stage in the exposure apparatus based on the target position calculated in said calculating step; and

transferring a pattern to the substrate using the lens section.

50. (New) An apparatus adapted for determining a target position of a stage on which an object is placed, said apparatus comprising:

a first measurement system arranged to measure a position of a mark formed on the object;

a second measurement system arranged to measure a position of the stage plural times during the measurement by said first measurement system; and

a calculation section arranged to calculate a target position of the stage based on a measurement result by said first measurement system and measurement results by said second measurement system.